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DISTRICT COMPUTER CONCERNS: Checklist for Monitoring Instructional Use of Computers

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ABSTRACT

Designed to assist those involved with planning, organizing, and implementing computer use in schools, this checklist can be applied to: (1) assess the present state of instructional computer use in the district; (2) assist with the development of plans or guidelines for computer use; (3) support a start-up phase; and (4) monitor the implementation or progress of an on-going program. Based on the need for coherency, rationality, and coordination between buildings and districts, the guidelines are designed from the district point of view. The main areas of assessment include: methods of computer use (computer assisted instruction, software application, programming); hardware and software currently in use; funding sources; computer brands being utilized; availability and types of teacher inservice training; equity in computer access; district computer planning activities and guidelines; and problems and impediments to successful computer implementation and development. (JB)

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DISTRICT COMPUTER CONCERNS

CHECKLIST FOR MONITORING INSTRUCTIONAL USE OF COMPUTERS

This packet of materials will be useful to those involved with planning, organizing and implementing computer use in schools. This packet can be applied (1) to assess the present state of instructional computer use in the district, (2) to assist with the development of plans or guidelines for computer use, (3) to support a start-up phase, and (4) to monitor the implementation or progress of an on-going program. Careful monitoring of current practice is essential if decision-makers are to understand and appreciate the instructional use of computers.

This packet is organized around key issues for decision-making about computer use programs. Any useful computer plan, guideline, or policy will need to address these key issues. This checklist is designed from the district's perspective and based on the need for coherency, rationality and coordination between buildings and districts.

MAIN AREAS

1) How is a computer to be used? (CAI, word processing, programming) What hardware and software are currently used?

2) Cost - What can be budgeted? Who is paying?

3) Inservice training - who, what area, compensation?

4) Equity - What are the patterns or present use? Is equal access assured?

5) Computer use plan - Is there one? Is it implemented?

I. Decision About Use

Within instructional use, there are three categories: (1) computer assisted instruction (CAI), (2) computer programming, (3) software application. The questions on the following page are based on this categorization. Please add any other uses that occur in your district in this space.

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Check each of the following curriculum areas if computers are now being used and will in 2 years be used on a regularly scheduled basis: Use one of the following marks for magnitude: 0, /, or //. 0 = none, / = some, // = lots.

	Elementary		Middle/Jr.		High	
	Now	In 2 Yrs	Now	In 2 Yrs	Now	In 2 Yrs
1.1 CAI: Are there classes using CAI?	___	___	___	___	___	___
1.2 Programming: Are there classes in:						
Programming - BASIC	___	___	___	___	___	___
Programming - PASCAL	___	___	___	___	___	___
Programming - LOGO	___	___	___	___	___	___
Programming - Other	___	___	___	___	___	___
Software Applications (W/P)	___	___	___	___	___	___
Other Computer Literacy	___	___	___	___	___	___
1.3 Integrated Usage: Is computer applied software being used to supplement classes and texts in:						
Business Education	___	___	___	___	___	___
Composition	___	___	___	___	___	___
Reading	___	___	___	___	___	___
Language Arts	___	___	___	___	___	___
Journalism	___	___	___	___	___	___
Foreign Language	___	___	___	___	___	___
Mathematics	___	___	___	___	___	___
Science	___	___	___	___	___	___
Social Science	___	___	___	___	___	___
Health	___	___	___	___	___	___
Career Education	___	___	___	___	___	___
Library Skills	___	___	___	___	___	___
Agriculture & Forestry	___	___	___	___	___	___
Drafting	___	___	___	___	___	___
Electronics	___	___	___	___	___	___
Industrial Arts	___	___	___	___	___	___
Home Economics	___	___	___	___	___	___
Music	___	___	___	___	___	___
Art	___	___	___	___	___	___
Physical Education	___	___	___	___	___	___
Keyboarding - typing	___	___	___	___	___	___

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	Elementary		Middle/Jr.		High	
	Now	Needed: in 2 Yrs	Now	Needed: in 2 Yrs	Now	Needed: in 2 Yrs

1.4 Audiences Served: Are computers being used in programs for

Education/Handicapped	___	___	___	___	___	___
Education/Gifted	___	___	___	___	___	___
Career Information System	___	___	___	___	___	___
Teachers	___	___	___	___	___	___
Other	___	___	___	___	___	___

1.5 Time on the Terminal: Provide rough estimates (or percent) of average student time per activity, even if subsumed within another course.

	Level		
Activity	Elementary	Middle/Jr. High	High School
Total weekly time spent in:			
Drill and practice	_____	_____	_____
Tutorial	_____	_____	_____
Simulation	_____	_____	_____
Instructional games	_____	_____	_____
Other instructional tasks	_____	_____	_____
Recreational games	_____	_____	_____
Library	_____	_____	_____
Utilities	_____	_____	_____
Computer application instruction (learn about word processing)	_____	_____	_____
Computer application for other subject matter instruction	_____	_____	_____
Communications	_____	_____	_____
Computer programming	_____	_____	_____
Other	_____	_____	_____

1.6 Requirements: What computer courses or competencies are/will be required in:

	Elementary School	Middle/Jr. High School	High School
Now	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
In 2 years	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

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1.7 Extent of Usage: What percentage of students are actually using these stations and will be using them in 2 years:

	Percent Now	Percent in 2 Years
Elementary	_____	_____
Middle/Jr. High	_____	_____
High School	_____	_____

II. Decisions About Equipment: Brands and Funding.

2.1 Computer Types: List the number and brands of computer hardware this district has at the following levels:

	Level		
Terminals	Elementary	Middle/Jr. High	High School
Apple II's	_____	_____	_____
Apple Macintosh	_____	_____	_____
Commodore 64	_____	_____	_____
Radio Shack color-computer	_____	_____	_____
Radio Shack I, III, 4	_____	_____	_____
IBM PC	_____	_____	_____
IBM PC Jr.	_____	_____	_____
Acorn	_____	_____	_____
Texas Instruments	_____	_____	_____
Apple II Compatible	_____	_____	_____
IBM Compatible	_____	_____	_____
Other	_____	_____	_____

2.2 Special Provisions: Maintenance....security....room space....student carrels--any other special site provisions (wiring), lighting, air conditioning)--any special provisions for staff (computer room personnel, computer coordinators at building or district levels).

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2.3 Students/Terminals: What is the ratio of number of students to work stations?

	# of Schools	# of Students	Stations	Ratio
Elementary	_____	_____	_____	_____
Middle/Jr. High	_____	_____	_____	_____
High School	_____	_____	_____	_____

2.4 Distribution of Hardware: Where are the student stations located in the school? How many are

	Elementary	Middle/Jr. High	High School
in classrooms	_____	_____	_____
in library/media centers	_____	_____	_____
in "computer room"	_____	_____	_____
mobile "floaters"	_____	_____	_____
other	_____	_____	_____

2.5 Funding Sources: What percent of funding for hardware and software came from:

	Percent
Federal Funds - Chapter 1, Title I	_____
Federal Funds - Chapter 2	_____
Other Federal Funds	_____
Private Foundations	_____
State Funds	_____
Business/Industry Donations	_____
District Funds	_____
School Funds	_____
Parent-Teacher Associations	_____
Other Funding	_____

2.6 Other Sources: What current budgets are being used for the computer program?

_____ Library Media Fund

_____ Textbook Adaption Fund

_____ Discretionary Building Fund

_____ Computer Program Funds

_____ Other

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2.7 Allocation of Funds: What percent of these funds is allocated to:

		Percent
Hardware:	New purchases	_____
	Replacement	_____
	Maintenance	_____
Software:	New purchases	_____
	Replacement	_____
	Maintenance	_____
Training		_____
Staff		_____

2.8 Purchasing Policies: Decisions for obtaining:

Hardware:	Uniform supplies
	Bid
	Other
Software:	Consortium (e.g, Oregon Ed. Computer Consortium)
	Vendor: Mail order/Retail
	Other

2.9 Insurance: Does your district have separate insurance for your computer hardware and/or software? Y/N _____ If yes, does it cover the following:

	Y/N
Theft	_____
Fire	_____
Vandalism	_____
Off-site uses	_____
Liability	_____
Other	_____

2.10 Is there a designated district computer coordinator: Y/N _____

If yes, what budgeted FTE is provided for this position? _____ FTE

To whom (position) does the district computer coordinator report?

_____

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2.11 Name a school that exemplifies the most successful pattern of computer adoption.

_____

2.12 District Variability:

Very wide _____ Somewhat _____ Uniform _____

III Decisions About Inservice. Inservice is the key to successful program implementation. Staff commitment and training is essential for "cadre' model" adapted by most schools. In this model a few teachers are trained and are responsible for training other teachers. The question of setting priorities may be addressed by a few (e.g., steering committee), some, or many (e.g., total staff). A priority may be that many students have a small amount of computer time, or a few students having a lot of time. A district must identify what criteria will be used to determine which students will use the computer and for what reasons. The relationship between equipment, curriculum development, and successful implementation pivots on the issue of inservice.

3.1 Does your district provide classes in any of the following:

Area of Inservice Training	Y/N
Introductory Computer class (10 hr.)	____
Basic Programming (30 hr.)	____
Software Review (25 hr.), how to select software	____
Integrating Software in Classroom Activities (20 hr.)	____
Application of Different Software (45 hr.) Indepth knowledge of: electronic spreadsheets, data base management, word processing, grade books, test development	____
Authoring CAI (30 hr.), basic principles of instructional software design	____
Information Retrieval course (25 hrs), utilization of major national data base, such as those of the New York Times, SOURCE, or Career Information System	____

3.2 Over the last 12 months, what computer-related topics have been covered by:

District-Sponsored Inservice Programs

Building-Sponsored Inservice Programs

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3.3 What percent of your teachers have now completed some inservice training for instructional computing and will have in 2 years? Inservice training in this question refers to training that has taken at least a day to deliver.

	Now	In 2 Years
Elementary School	_____	_____
Middle/Jr. High	_____	_____
High School	_____	_____

3.4 How is inservice preparation for computer uses provided? Of all inservice thus far provided, (about) what percent comes from:

Source	Percent
District Resource Person	_____
Training/Tuition Reimbursement	_____
District-Sponsored Inservice Training	_____
School-Sponsored Inservice Training	_____
Building-Level Resource Person	_____
Individual Initiative	_____

3.5 What percent of your instructional computing inservice training is provided by:

	Percent
District Computer Coordinators	_____
School Computer Coordinators	_____
Classroom Teachers	_____
School Administrators	_____
District Administrators	_____
Other District Staff	_____
Educational District Staff	_____
College/University Faculty/Staff	_____
Commercial Providers	_____
Other Non-District Personnel	_____

3.6 What percent of your teachers have taken instructional computing inservice training at the following times:

	Percent
After school	_____
Release time	_____
Weekends	_____
Summer school	_____

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3.7 What is the average amount of time (during last school year) a teacher spent on instructional computing inservice training?

_____

3.8 What incentives or compensations are provided for development of computer capabilities by teachers, resource people, and/or administrators?

3.9 Which building has utilized a particularly effective training program?

IV Decision on Equity. Equity is defined as accessibility - by whom and when.

4.1 When are student stations (or computer lab) available?

All day = 8 hours every school day Y/N _____

Other arrangement _____

4.2 Is there a prerequisite for access? Y/N _____

If yes, indicate which of the following is a prerequisite:

GPA	_____
Class standing	_____
Class enrollment	_____
Study hall	_____
Computer License*	_____
Job (office attendance)	_____

* Some districts have a voluntary introductory program on computer use; completion and certification (license) is required before a student can use a computer.

4.3 In classes that consistently use computers, what percent of enrollment are boys and girls?

	% Boys	% Girls
Computer Classes (Computer I, II, III, Computer Applications)	_____	_____
Mathematics	_____	_____
Business Classes	_____	_____
English Composition	_____	_____

4.4 What techniques have been attempted to address the problem of differential utilization?

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4.5 Which ones have been successful?

4.6 How is the hardware distributed?

_____ Equal number to each building

_____ Based on enrollment proportions

_____ Designated by steering committee

_____ Other

4.7 Is there a scheduling procedure? Y/N _____
Please provide a description of how it is organized.*

* Many districts have reported that scheduling is a key element: "maintaining a scheduling system that allows for the greatest possible use is our main challenge."

V Guidelines - Plan. Successful use of computers to assist learning will not occur without careful planning. A plan should include guidelines on: objectives of computer use, curriculum areas, equipment (hardware and software) selection and evaluation, facilities plan, staff training, equity and resources. A steering committee is useful and should be a representative group who have a commitment to computers, willing to work on learning strategies and evaluations. They will be charged with identifying the criteria which determine which students will use the computer and for what reasons.

5.1 In planning for instructional computer use, does the district use

	Y/N
District Administrative Use Committee	____
District Instructional Use Committee	____
Combination of the Above	____
Community Committee	____
Secondary Committee	____
Elementary Committee	____
Principals' Committee	____
Teachers' Committee	____
Administrator and Key Staff	____
Administrator	____
Individual Staff Members	____
Ad Hoc Committee	____

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5.2 Does the district have written guidelines for instructional uses of computers?

Y/N _____

If yes, does it address:	Y/N
Hardware Purchasing	____
Software Purchainsg	____
Hardware Evaluation	____
Software Evaluation	____
Maintenance Requirements	____
Inventory Control	____
Required/Desired Teacher Competencies	____
Required/Desired Administrator Competencies	____
Required/Desired Student Competencies	____
Community/Home Coordination	____
Provisions for Staff Development	____
Personnel Requirements	____
Funding Sources	____
Space and Site Preparation	____
Copyright Protection	____
Information Security or Protection	____
Incentives for Individual Development	____
Incentives for School Development	____
Plans for Growth for next 2-3 years	____
Plans for Growth for next 4-6 years	____
Plans for Growth for next 7+ years	____
Curricular Use	____
Extra Curricular Use	____
A method for easily identifying computer-related expenditures	____

5.3 Are all these guidelines being followed? Y/N _____
If no, which are not being followed:

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5.4 How do you rate the following possible problems as impediments to plan development and implementation of instructional computing in your district?

	Minor	Moderate	Major
Financial constraints	____	____	____
Cost of Staff Development	____	____	____
Lack of Staff Incentives	____	____	____
Software: Poor Quality	____	____	____
Hardware: Lack of Power	____	____	____
Absence of District Plans	____	____	____
Inappropriateness of District Plans	____	____	____
Inappropriate School-Level Plans	____	____	____
Administrator Attitudes	____	____	____
School Board Attitudes	____	____	____
Teacher Attitudes	____	____	____
Student Attitudes	____	____	____
Parent Attitudes	____	____	____
Community Attitudes	____	____	____
Lack of Physical Space	____	____	____
Administrator Competencies	____	____	____
Teacher Competencies	____	____	____
Student Competencies	____	____	____
(Others???)			

5.5 Of the possible impediments listed in the above questions, which <u>three</u> present the most difficult problem?

most difficult:

next most difficult:

third most difficult:

5.6 Is there an impediment <u>not</u> listed that you feel should be in the top three?

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